CONTENT

1.	Introduction	1-3
2.	Review of Literature	3-8
3.	Rationale of the study	8
4.	Scope and limitations	8
5.	Objectives of the study	9
6.	Hypothesis of the study	10
7.	Research Methodology	10
8.	Chapter outline	10
9.	References	11-12

Study of Usability of SWAYAM as an Information Source with Special Reference to Indore City

Introduction

Information Communication Technology (ICT) has changed the education system scenario. Traditional educational system associated with books and classroom with fix curriculum, timing, location & well streamline way of teaching with the advent of ICT computer, internet, mobile device, cloud technologies has made the education available to everyone without worrying about timetables and schedules. ICT plays a vital role in making learning more effective, efficient and enjoyable. Honorable Prime Minister has visualized for the transformation through "Digital India "project.

Digital learning/ e-learning is learning through technology. It is beyond the traditional classroom teaching. It gives the freedom to both the teachers and students to choose their place and time for their learning. In this digital learning era, Massive Open Online Course (MOOCs) platform is fast gaining popularity in India.

Massive: IT means that there is no limit on the number of learners who can enroll for these courses.

Open: Courses offered are open to all without any geographical boundaries.

Online: Courses fully online and delivered through internet.

Courses: Many courses available from management to technology.

MOOC is an eminence education tool to provide quality education to learners at minimum cost with lot of choices. Many students and professionals have started enrolling in MOOCs to enhance their skills in India. MOOCs are highly multimedia enriched interactive online courses that give unique opportunity for the learners to choose their courses as per requirements. It is a web-based open educational platform aimed at unlimited learner participation all over the world.

The President of India Mr. Pranab Mukherjee launched the Study Webs of Active Learning for Young Aspiring Minds (SWAYAM) programme on 9th July 2017. SWAYAM offer excellent, interactive and curriculum based hosting of 2000 online courses from class 9th to post graduate level with access, equity and quality as the basic principles.

Ministry of Human Resource Development and All India Council of Technical Education have developed SWAYAM with the help of Microsoft. SWAYAM is offered to bridge the digital divide among the students and faculty members for improving the knowledge and

creating knowledge economy (Paul, 2018). The course content developed on portal follows four quadrant approach-e-Tutorial, e-Content, Web Resources and Self Assessment.

Major Features of SWAYAM:

Course type and Duration	Two types of courses offered through SWAYAM, Credit and Non Credit.
Course Components	Course components available for students in Video lectures, Downloadable printing reading materials, Self Assessment test through quizzes & Online Discussion forum
Course Fee	Courses offered via SWAYAN are Free of cost, However, in order to obtain certificate for a particular course students need to pay a nominal fee.
Certification	Certificates are awarded to students after successful completion of the course.
Credits	At the end of each course, students will be assessed through a proctored examination. Marks/Grades secured by students in the exam are transferred to their academic records

Nine National Coordinators to Manage the Courses:

1	University Grant Commission (UGC)	Non Technical PG Degree Programme
2	Indian Institute of Management Bangalore (IIMB)	Management Programme
3	All India Council of Technical Education (AICTE)	Self Paced & International Course
4	National Institute of Technical Teacher's Training (NITTR)	Teacher Training Programme
5	Indira Gandhi National Open University (IGNOU)	Diploma & Certificates Programme
6	National Council of Educational Research &Training (NCERT)	School Education Programme class 9th-12th
7	National Institute of Open Schooling (NIOS)	Out of School Children educational programme class 9th -12th
8	Consortium for Educational Communication (CEC)	Non Technology Under Graduate Degree Programmes.
9	National Programme on Technology Enhance Learning (NPTEL)	Technical/Engineering UG and PG Programmes

Usability Meaning and Definition:

Usability means ease to use and access of a product, system or websites. Usability is thinking about how and why people use a product. It means user centered design. As per ISO 9241 Standards usability means "The extent to which a product can be used by specified users to achieve specified goals with effectiveness, efficiently and satisfaction in a specified context of use"

Usability is a necessary condition for survival. It is an evaluation of system, Usability is defined by 5Es**:**

Efficient - "It is the speed with which work can be done accurately. The user will be able to successfully complete the registration and should use e-platform without difficulties."

Effective - "It addresses whether the product/system is useful and helps user to achieve their goals."

Engaging - "It looks at the quality of the interaction or how well the user can connect with the product is presented & organized. Engaging is how pleasant, satisfying or interesting an interface is to use.

Error Tolerant – "It can say "error free or prevents errors but as a human being mistakes, errors and misunderstanding will happen, so error tolerant involves how will the product prevents errors and helps users recover from any errors that do occur.

Easy to Learn – "Ease of learning concerns how well the system supports both initial orientation and deeper learning. Users will be able to successfully complete a benefits calculation without needing any external instruction or help screens."

Review of Literature:

Monika and Jayachithra (2019) reported in their study that all teachers and students of Humanities and Science in Tamil Nadu have a positive perception of massive open online courses. The study also revealed that postgraduate, urban area and science students and teachers were more aware of MOOCs compare to graduate students and teachers of humanities in the rural area.

Santosh and Padmanabha (2019) conducted a study to examine the awareness, acceptance, challenges and experiences about massive open online courses in Bangalore among the faculty, research scholars and students of management education. The study revealed that the majority of students, faculty and research scholars were aware of massive open online

courses. The study highlighted that the students need proper training, technical support and encouragement to complete the online courses.

Nayek, J. (2018) in his study examined the awareness of SWAYAM among Library and Information Science professionals in India. The study revealed that the majority of students were aware and interested in the SWAYAM program but library science courses are very less in SWAYAM compare to other courses, so it is essential to add more recent topics, latest developments interactive and pioneering learning techniques in the library and information science courses. The study also suggested that it is prime duty of library professionals to have promoted online learning and play a vital role in the Digital India mission.

Paul; Bhuimali; Tiwary and Aithal (2018) study highlighted that SWAYAM is an online self learning education instrument. This is helpful for those who are studying and also working. Many courses offered in this platform and virtually every course is for the school /college and university level and importantly most of the courses are offered by the teachers in India and elsewhere. These courses delivered by the reputed organizations and universities viz IIT Bombay, IIT Guwahati, IIT Madras, IIT Bangalore, IIT Kanpur, and University of Delhi etc. Study also suggested that the in future bachelors and masters degree program may also be started in SWAYAM platform for better and smarter knowledge delivery.

Pramanik, S. (2018) tried to find out the attitude of post graduate students of University of Calcutta and reported that in India traditional education methods are preferred by most of the students. The study also revealed that language is also one of the barriers to participate in MOOCs courses. The study suggested that effective implementation of SWAYAM MOOCs is required basic IT infrastructure and a fast internet connection.

Priyadeep; Balhara and Dalal (2018) conducted a study to carry out quality analysis of SWAYAM courses related to management education and explore scope of improvement in digital learning through SWAYAM program. The survey helped in analyzing the issues of ease of access, ease in understanding the study content, relevance, practical applicability and feedback management related to study content in SWAYAM program.

Samanta, A. (2018) study explored that SWAYAM is a new approach to education. It provides entire and in-depth information about various types of courses in a different

discipline that will help the students to enroll in the SWAYAM courses. The aim of the study is to find out the learners enrolment in different subjects, different courses and various certificate types available in SWAYAM courses.

Sharma, R. (2018) study revealed that library information science faculty members have positive attitudes towards using social media as a MOOC tool. They feel it is a comfortable platform for sharing views and clearing their doubts.

Soyemi ; Oja and Abolarin (2018) study found that no significance between digital literacy skills and MOOC participation. It revealed that all respondents had high literacy skills in finding required information online, using online information and managing computer hardware or software but a few respondents had enrolled in MOOC websites. Lack of time and proper internet speed were the causes of inactive participation on MOOCs. Study recommended that university management should motivate the lecturer to participate in MOOC courses for lifelong quality learning activities and improve internet connections and speed.

Chauhan, J. (2017) described in this paper various MOOCs courses NPTEL, SWAYAM, mooKIT and IITBX with technical background, features and courses offered by these platform.

Gyan, M.A. and Das, S. (2017) study investigates the awareness and perception towards the e-learning among the faculty members of Tripura University. The study highlighted that maximum respondents (96%) were aware of the e-learning idea and 76% of respondents were aware of the SWAYAM platform. highest respondents 84% were not registered in any e-learning course and 52% of respondents were interested to register courses through SWAYAM.

Hiremath, R. (2017) study examined the SWAYAM massive open online portal objectives, features, scope, and advantages. Study suggested that every institution should have participated to promote these courses.

Nwana, S .E., Egbe, C.I .U., Ugwuda, S.O. (2017) study conducted on awareness and usage of e-learning materials among students in the distance education program of the national open

university of Nigeria. Study concluded that majority of students aware of e-learning materials but usage of e- learning materials was low.

Sing, G. and Chauhan,**R**. (2017) study revealed that teachers educators have basic ideas about massive open online courses ,their advantages, utility .Many teachers have no idea about Indian MOOC SWAYAM courses ,its benefits, features and various courses.

Trehan, S .Li, C.; Sanzgiri, J.; Wang, R.; Joshi, R.K. (2017) studied the critical discussion on the Massive Open Online Course in India and China. In higher education system in India and China MOOC concept is valuable and play important role in formal and informal education system.

Dhanani; Chavda; Pate and Tandel, K. (2016) studied the awareness and utilization of massive open online course and video series of faculty members of GMERS Medical College, Valsad, and Gujarat. Study revealed that most of the faculty members are using internet but the awareness and utilization of MOOCs and educational video series are not satisfactory. The study also suggested that it is very essential for medical institutions to organize MOOCs awareness programs, seminars and workshops.

Kaveri; Gupta; Gunasekar and Pratap (2016) described the strong point of SWAYAM, its qualitative assessment system as well as recognition of credits, equity of access and affordability. Traditional higher education Institutes have a clear edge over global MOOCs and SWAYAM in terms of long term impact on citizens and society building and shaping individual opinions.

Naresh, B.; Reddy, B.S.D.; Pricilda, U. (2016) this paper compares the e-learning environment and its difference between the developing countries. Study identified the challenges and opportunity faced by them. The developing country faces more challenges like lack of infrastructure, trained instructors, lack of financial support, Government policies and less student readiness. Study focused that implementation of e-learning in higher education minimize the difference.

Selvan, P.S.K. (2016) study revealed that there is no significant difference between awareness on online learning among male and female post graduate students. Study focused

on that student those who were having computer knowledge and computer facilities they have more aware on online learning.

Tsironis, A.; Katsanos, C.; Xenos, M. (2016) study conducted on comparative usability evaluation of three popular MOOCs platform edx, Coursera and Udacity. Study revealed that Coursera MOOC platform was more usable compare to edx and Udacity. Results of the study showed that Coursera interaction efficiency was significant higher compare to Udacity.

Haranai, S.R. (2015) study conducted in Tehran Alzahra University. The result of the study showed that student's motivation affected the e-learning process; there is a significant relationship between e-learning and student's motivation.

Khalil, H; Ebner, M.C. (2015) study designed to access the perceptions and satisfaction of online students and instructors about the importance of interaction in their MOOCs. Study analyzed that students and instructors rated a high level of satisfaction of interaction in MOOCs. Study highlighted that lack of instructors' interaction reveals dissatisfaction among students.

Nautiyal, V. and Sinha, R. (2015) study described that student and teachers are aware of the online learning resources and 86% of students believed that online learning is highly effective in teaching but only 34% of them actually practically used online learning.

Nisha, S. and Senthil, V. (2015) study explores the detail information about massive open online courses from India and across the world. It provides feature of MOOC, various types and various MOOCs platform such as Alison, Coursera, Edx, Edukart, Iversity, Open learning, The open university, Udacity Swayam etc. Further study described the limitation and future of MOOCs. Study revealed that MOOCs provide quality education easily accessible to anyone, anywhere and anytime around the world.

Bharti, P. (2014) study described that SWAYAM is a new platform where quality education giving by professionals and dropout students with best online lectures, video, self assessment tests and online discussion for clearing doubts.

Kiget, N.K., Wanyembi, G.; Peters, A.I. (2014) study evaluate the usability attributes such as learnability, user friendliness, technology infrastructure, usability policy, culture and gender that affect the e-learning system in Kenyan public Universities. Study revealed that most of the students agreed that learnability, user friendliness and usability policy affecting the e-learning system. Most of the respondents agreed that learning e-learning and using e-learning system was not easy.

Muzafarova ,T. ; Erdogan ,K. (2014) study conducted on awareness of massive open online courses a case of international black sea university students. Study revealed that awareness and use of MOOCs was very low, 61% students never use any MOOC.

Rationale of the Study:

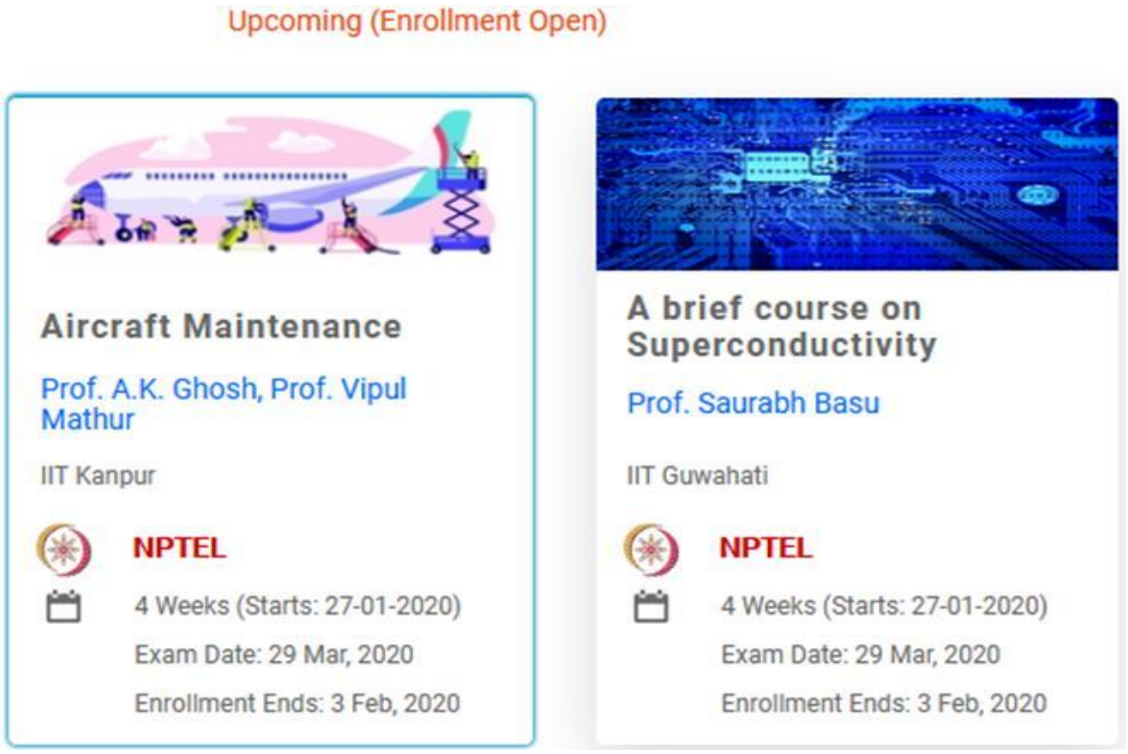
SWAYAM offers wide range of courses for engineering subjects through National Program on Technology Enhancement Learning (NPTEL) initiated by seven Indian Institutes of Technology and Indian Institute of Science Bangalore. Presently around 934 programs are available for the students and faculty members. Government of India, Ministry of Human Resource Development is promoting MOOCs in SWAYAM. It is important to find out the usability of SWAYAM courses among learners for whom the program is launched. SWAYAM platform provides the opportunity to users to improving their knowledge and skills for employability. SWAYAM is a new gateway to teaching-learning. Many studies have been conducted on the awareness and usability of e-learning and components of various e-learning practices. No study has been conducted on the usability of SWAYAM as an information source with special reference to Indore city so far. Proposed study is to examine the usability of SWAYAM courses among the students and faculty members of the Indore city.

Scope and Limitations:

The study will covers all the Engineering Institutions of Indore, who have registered in the SWAYAM NPTEL portal.

NPTEL Offering Courses

https://swayam.gov.in/NPTEL



Objectives:

The main aim of this research is to study the usability of SWAYAM as an information sources for learning, training and development. To achieve this aim, the study focused on the following objectives:

- To study the awareness of SWAYAM among the students and faculty members.
- To study the effectiveness of SWAYAM.
- To evaluate the features and facilities of SWAYAM.
- To study the students and faculty members for enrolment in SWAYAM.
- To find out the reasons for enrolling and non-enrolling in SWAYAM.
- To identify the courses of high demand in SWAYAM.
- To find out the problems encountered while using SWAYAM to complete the courses.
- To find out the satisfaction level of registered users towards the SWAYAM.
- To find out the role of institution's library in Promoting SWAYAM.

Hypothesis:

Ho1: There is no significant difference in the usability of SWAYAM among students and faculty members of engineering institutions.

Research Methodology:

Research Design: The present study will be used as a descriptive method on the survey approach.

Sampling Method: This study will use purposive sampling method.

Sampling Frame: Students and faculty members of Engineering Institutions

Sample Size: The sample will be around 1100 users of SWAYAM.

The Tools for Data Collection: To gather the required information for study, the primary data will be collected through questionnaire and secondary data from different journals, magazines, web sites etc. A structured questionnaire will be designed.

For Data Analysis: Appropriate statistical test will be used as needed.

Chapter Outline:

Chapter 1 - Introduction

Chapter 2 - Review of Literature

Chapter 3 - Research Methodology

Chapter 4 - Result

Chapter 5 - Discussion

Chapter 6 - Summary

Chapter 7 - Conclusion

Chapter 8 - Suggestions

Chapter 9 - Implications of the study

Chapter 10 - References

Chapter 11 - Appendices

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